

Learner _____ **Name** _____ **(s):** _____ **tshingombe**
tshitadi _____ **Grade(s):** _____ **12/ __, n6 _**

School Name: st peace collge

_Region: gauteng

Project Title: the implementation framework circulum knowledge
circulum policy engineering planing product improvement contractual
agreement with register trainer and consultant engineering electrical and
computer science engineering

1.abstract : the implementation framework circulum knowledge
circulum policy engineering planing product improvement
contractual agreement with register trainer and consultant
engineering electrical and computer science engineering

static material drawing need discovery Channel partner ways together with the quality plan on being there for system need system generated undergoing next year's and analyse to zero loadshedding or Rental system information recommand theory practice of anticipating dangers social media teach the innovation define city power municipality government institutes city jhb delivery matter supply public and private urbanization energy electrical ,

And define Eskom entrepreneurs commission delivery society government industrial delivery public private energy electrical commissioner .

.the school and college institutes private public define by Education department teaching learner science engineering apprentice and training and assessment of learner intellectual

-need or problem defined : the research implementation problem need to resolve discovery rural and actually technology innovation industrial to integrate system to standard system knowledge support natural sciences design generated analyze combined sheet from school assessment Portfolio college career outcome Assessment information formative and Summative to workplace workshop mentoring components system to be improved or functionnning to the municipality and entrepreneurs industrial to promovate graduation in workplace.

-research questions:

Ask factor job career outcome transition phase learner phase exhibition phase teach beginning, intermediate,seignor get college junior cadet minim functions graduate chief post generation size industrial , development outcome machine industrial problem industrial maintenance support, manufacture support technical science actual system machine computer system news technology robot science energies need career outcome integration human and material support to resolve demand factor in

humans size outcome tendered bid and material resource capacity product [integration. to](#) resolve team timeframe operational system month daily diary

2.Purpose: Ask factor job career outcome transition phase learner phase exhibition phase teach beginning, intermediate, seignor get college junior cadet minim functions graduate chief post generation size industrial , development outcome machine industrial problem industrial maintenance support, manufacture support technical science actual system machine computer system news technology robot science energies need career outcome integration human and material support to resolve demand factor in humans size outcome tendered bid and material resource capacity product [integration. to](#) resolve team timeframe operational system month daily diary ,
-research time frame :

Project ,importance time frame allocation time table research engineering and science electrical implementation break time load shedding time industrial loss gain resource human material energetic ,time table adaptation system team synchronization, asynchronous system regulation time table periodic alternative or direction energy production system cost metering production human time frame to resolve movement frequency response of team step task project in the structure, resonance learner ,metering learner teacher, resonance learner and system robot actually must be synchronized s

3.Method :

METHOD:

MATERIAL AND EQUIPMENT:

methology specific guidelines assessment formative Summative rebruc,tools assessment learner and teacher ,time table allocation
file student file school..workers file employment database file training job and emploie job , humain.

Material stationery information Manuel and automatically system machine laptop computer ,panel system ,design,execise book log book, journal account book, drawing sheet book,office documents wallet book,bank card register office database employment book, need,

Engineering electrical material,panel projection permit office workplace register government industrial register social,policy defense security register logistics support, space power.

Electrical generation transmission,distribution metering measure tools ,robot it system Port USB ,
Panel, equipment scaling.office study.

4.Results: nano technology and mining , wath is natechnology , wath are the danger of mining,how is nanotechnology being used to make safe , activity,2,3 ..

-nanotechnology and energyb,where does ours energy come from,non renewable and renewable energy source ,how can nanotechnology help to build better solar panel , activities,1,2,3:..

.nanometre..

- the are used nano technology science very small ,object ,,,

..

..discy, ..

- apparatus , investigation, write an investigation Questions, write a hypotese for your investigation, procedure for the investigation ..make sure that your hypotheses give a clear idea of step you need ,

- connect your equipment so that you have build circuit shown diagram, beginning by including as completed the circuit observe brightness of the lighthub, now,observe the brightness of the lighthub with this shorter length,, torch ,wire pencil lead,wire,, now decrease the length pencil lead that has been included in your circuit once , observe the brighth of the lighthub with this shorter length of pencil lead ,record your observations,

-analyse your data. Assume the brighthness current and resistance do you notice from observations,

-Write a conclusion.

Write a clear conclusion to your investigate..

Activity:

Describe the mining danger ,,

-activity : in group of 5 ,6 learner design and draw a poster showing how nanotechnology is being used to build gas sensors for mines,

- make your poster as clear and colourful as , .

- you teach will assess your using criteria.

- poster is colour and creative , 2 marks,poster shows original idea 2 marks, poster is clearly presented , 2 marks,information on poster is informative. 2

.

5. Conclusion : Engineering it... discovery Computer , training , development and support services to existing or prospective , club house safe creative space to learner aged ,prepares learners for full participation in the 4IR and provide exposure to coding ,robotics ,sebt development, graphic design,3 d design ,2 D and 3 D modelling, animation,video production, basic computing , virtual art , year full time development program 180 unemployment youth aged training including cisco,it Ccma ,ccna security Linux,IoT ,C,C++ , python , essential skills and career readiness, instructor training centre essential ,ccna routing and switching ,ccna security ,ccna cybersecurity operation,to existing or prospective , custome accreditation custome 3,_4 day module ,word,excell,access,Nd power point ms office,speciistr training,it

also digital literacy, skills, certipoint examination ms office , specifical,
delivery fundiy depending learner full standard ,..

University. Undergraduate, how do you conscientise students about 4 in
their learning ,reality ,Google self driviy,

- what about the research output research , ..where are you going create
new facility .

- complementary roles engineer, design inovate ..role in perspective,
, Career psychological services focus counseling therapy psych
education ,career resource ,CV job interview gradust,

Eskom Expo for Young Scientists
RESEARCH PLAN

1. Research Plan Templates for:

1.1. Scientific Investigations Projects/Experiments

1.2. Engineering Type Projects and Computer Science Projects

- For these types of projects,
- a design process is followed according to criteria, to build and test-redesign-retest a prototype/product/solution e.g. a device or a computer code

1.3. Social Sciences Projects

- Social Sciences research involves an objective and systematic method of exploring and analysing human behaviour, social issues and other phenomena. It involves collecting qualitative and/or quantitative data

1.4. Mathematics/Theoretical Projects

- Mathematics projects explore quantity, structure, space and change. Starting with an observation, problem or question, make conjectures/hypotheses, prove your claim using new or existing methods, make valid deductions and test your ideas theoretically. Your reasoning and arguments must be logical

.2.2 SCIENTIFIC INVESTIGATIONS/EXPERIMENTS

NAME: tshingombe
tshitadi

PROVISIONAL

PROJECT

TOPIC: _____

PROVISIONAL

EXPO

CATEGORY: _____

- NAME : TSHINGOMBE TSHITADI

**-PROVISIONAL PROJECT TOPIC: IMPLEMENTATION FRAMEWORK
POLICY COLLEGE AND SCHOOL ENGINEERING CIRCULAR
ASSESSMENT POLICE EDUCATION TECHNOLOGY TEACH AND
TECHNOLOGY ELECTRICAL SUBJECT SCHOOL QUALIFICATION
LEVEL IN ENTREPRENEURSHIP AND INDUSTRY SOCIETY
COMMISSIONING AND GOVERNMENT MUNICIPALITY TEAM
TRAINING WORK GRADUATION ENGINEERING TIMEFRAME .ST
PEACE COLLEGE SCHOOL ORIENTATION GUIDE MANUEL POLICY**

-PROVISIONAL PROJECT EXPO CATEGORY..:

- INTRODUCTION:

2.3 Introduction

2.3.4 Literature review:

?Define concepts/definitions

.What are the benefits/significance of doing this research/who will benefit?

2.3.4 Problem Statement: What problem/issue will you be addressing?

2.2.5 Research question(s):).

Aim: What is the aim/objective of this research project?

2.2.6 Hypothesis:

Variables: List the independent, dependent and the controlled/fixed variables

2.2.7. Method

Materials

Procedureend record the data?

Data analysis: How will you analyse the data?

Ethics

Safety

Time Frames

2.2.8 References

.

Teacher's/Mentor's comments and suggestions:

Teacher's/Mentor's name, signature and date:

ENGINEERING TYPE/COMPUTER SCIENCE PROJECTS

NAME: _____tshingombe

PROVISIONAL PROJECT TOPIC:

PROVISIONAL EXPO CATEGORY:

- NAME : TSHINGOMBE TSHITADI

-PROVISIONAL PROJECT TOPIC: IMPLEMENTATION FRAMEWORK
POLICY COLLEGE AND SCHOOL ENGINEERING CIRCULAR
ASSESSMENT POLICE EDUCATION TECHNOLOGY TEACH AND
TECHNOLOGY ELECTRICAL SUBJECT SCHOOL QUALIFICATION
LEVEL IN ENTREPRENEURSHIP AND INDUSTRY SOCIETY
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TRAINING WORK GRADUATION ENGINEERING TIMEFRAME .ST
PEACE COLLEGE SCHOOL ORIENTATION GUIDE MANUEL POLICY

-PROVISIONAL PROJECT EXPO CATEGORY..:

- INTRODUCTION:

Interview ask

Introduction

?

Need or Problem Defined:

it?

Research question(s): and guides the method section. It must be clear, concise and specific (must not be a Yes or No answer).

Aim:?

Engineering Goals or Design Goals or Algorithms:

Method

Materials: List the materials and equipment you will use.

Procedure: Data analysis: How will you test the prototype/solution and record the results?

Preliminary Designs: Include labelled diagrams (include scale, measurements with units) of the first prototype/solution and descriptions of the design ideas.

Ethics

Safety

If you do not have any potential safety issues, leave section blank.

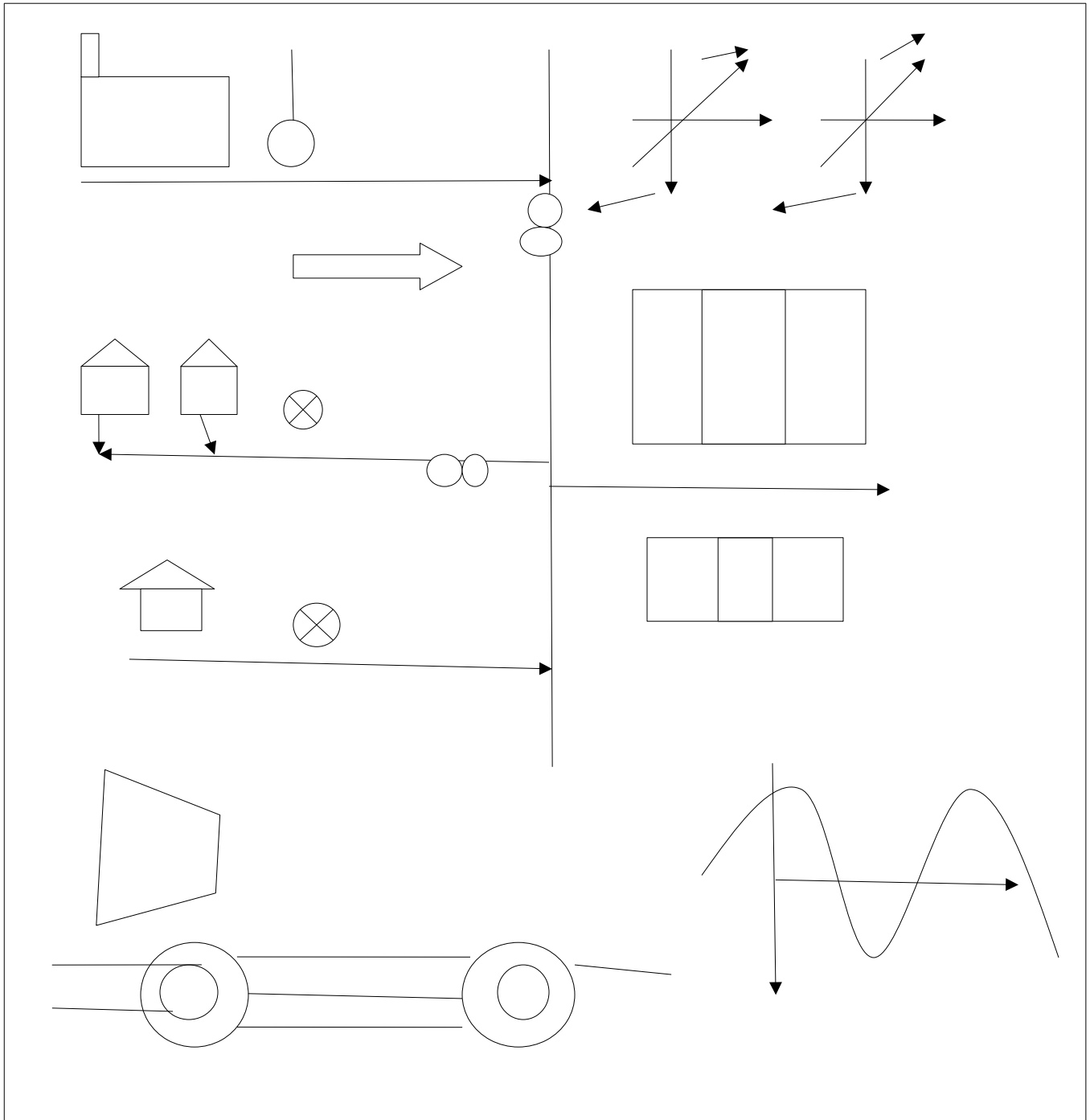
Time Frames

Poster?

References

Teacher's/Mentor's comments and suggestions:

**Research. Career, Eskom, city power municipality , department
education, science expo, college institutes school., project**



1.RESEARCH PLAN:

- ENGINEERING TYPE,AND SCIENCE COMPUTER

- NAME : TSHINGOMBE TSHITADI

**-PROVISIONAL PROJECT TOPIC: IMPLEMENTATION FRAMEWORK
POLICY COLLEGE AND SCHOOL ENGINEERING CIRCULAR
ASSESSMENT POLICE EDUCATION TECHNOLOGY TEACH AND
TECHNOLOGY ELECTRICAL SUBJECT SCHOOL QUALIFICATION
LEVEL IN ENTREPRENEURSHIP AND INDUSTRIAL SOCIETY
COMMISSIONING AND GOVERNMENT MUNICIPALITY TEAM
TRAINING WORK GRADUATION ENGINEERING TIMEFRAME .ST
PEACE COLLEGE SCHOOL ORIENTATION GUIDE MANUAL POLICY**

-PROVISIONAL PROJECT EXPO CATEGORY..:

- INTRODUCTION:

the innovation define city power municipality government institutes city jhb delivery matter supply public and private urbanization energy electrical , And define Eskom entrepreneurs commission delivery society government industrial delivery public private energy electrical commissioner .

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-Aim : overview : in the review system career learner induction or error implementation framework regulatory mandatory learner human resource in time time frame must adjustable system and resolve registered system administration standard synchronization and stability adaptor system delay register , model rwin city ,wring commission adapted illegally institutes or college need to training system and adapted in system upgrade update register circular policy engineering planning,

-Engineering goals:

Design , facilities learner Engineering entry model ,years learner up date ,up grade years 2023 to 2018 in college up date and new institutes and news outcyactual tendered job city.

Class model grade 1 to grade 12 level n 1,6 college level , university level , N1 to n6, NQF 1,nqfto 3 qualifications framework n engineering, grade occupation certificate seignor council certificate Engineering, category, frequency term 1,2,3,4 semester move file Portofilio assessment student register Poe's docket case indicator job logine , compare scaling,compare ,comtency rating ,

Synchronous induction learner speed slot intellectual quotient learner entry exhibition, efficiency learner ,average,

Probability learner gate job integrity post learner Portofolio learner award learner , probably learner job equity engineering and electrician daily meeting.

More less .induction error proefficience more ,

Goal close tendered minimum graduat learner posted salary recruitment post , maintenace poor,

,-algorith achieve , probably.

- METHOD:

MATERIAL AND EQUIPMENT:

methology specific guidelines assessment formative Summative rebruc,tools assessment learner and teacher ,time table allocation file student file

school..workers file employment database file training job and emploie job , humain.

Material stationery information Manuel and automatically system machine laptop computer ,panel system ,design,execise book log book, journal account book, drawing sheet book,office documents wallet book,bank card register office database employment book, need,

Engineering electrical material,panel projection permit office workplace register government industrial register social,policy defense security register logistics support, space power.

Electrical generation transmission,distribution metering measure tools ,robot it system Port USB ,

Panel, equipment scaling.office study.

-PROCEDURE : description

Learner and teach , Education design technology support science ,and enysupport,

- team step task operation activities career,

Relate argument statement button

Operational preliminary task.method motivation automation ,register system

input output student workclass scaling class career class ,yes statement

class yes, implementation print and yes , workplace Eskom or city power

available learner place yes synchronisation or inspection department

education or labour gov yes adapted system accountability yes restore file

system yes , , relay delay yes compare yes test control loops system yes flip

file equity and statement post yes, teach system yes up date course lecons

activity yes compare resolution certificate yes occupation yes qualifications

yes compare systeme, questions custome system ask resolve yes meet yes

training ask component framework yes activate yes implementation yes

system restore maintence support system,

Data systems collect and memorise award.

-ETHIC : completed safety.

Circulum policy framework regulatority,quality council trade council

engineering, circulum policy, Education regulation regularity irregularite

material fault default, insurance quality ,

Health injury or health time frame synchronisation,asynchronous learner ,

network transmission,generation distribution system synchrone,real time ,

images time frame safety,time frame framework stability learner , induction

learner error learner outcom no meeting or learner gate damage system or

break time table material stationery workplace college affect workplace

industrial and municipality breakdown job injury body or robot system

industrial registration move inactive receive message or not send or not

incomplete,support no survey real no arrival place asynchronous

2.LITERATURE REVIEW

-time frame : project work plan
Plan orientation industrial and supervision.
. orientation industrial : schedule project shift days night
Management supervisor
Humaan resource
Management system information
Legal practice

Date :
State, :
post :

- teacher ' mentor comment and suggestion:

-3. **ABSTRACT**: the implementation framework curriculum knowledge
curriculum policy engineering planing product improvement contractual
agreement with register trainer and consultant engineering electrical and
computer science engineering static material drawing need discovery
Channel partner ways together with the quality plan on being there for
system need system generated undergoing next year's and analyse to zero
loadshedding or Rental system information recommand theory practice of
anticipating dangers social media teach,
-Name : tshingombe
- school name : St peace college.
- grade : 12/ level 6,n 6
Region Gauteng.
- PROJECT TITLE: IMPLEMENTATION

-ABSTRACT :
-PURPOSE:
-METHODE:.

-project management: building for scientific mentor, school,
- views school attending,
Project submitted.
- customer used.
- application award certificate .
Grade expose youth.
- project creating .
- school management projects
Development companies.
- social, science.
-agriculture animal, prody agriculture,
Biomedical chemistry analysis,
- computer data management data science network,St earth science ,
atmosphere ,climate science,energy, productivity, engineering, biomedical,
engineering chemistry, math, algebraic ,plant sciy, physics,
astronomy,science,matter,science ,matter ,optic,

-Types of project: scientific investigation: resear questions and a hypotese,
observations and ,
- it involves Colle ,
- engineering computer design , process , according,criteria,build test
redesign,retest proto,

-mathrmatic, theoretical,
Print explot,
- quantity hypothy
- creative identify what.
- interest focus specii topic
- determy significant, value.
Topics literature review.
Creating ,ethic ,response research plan ,
Project book,
Take pictures.

2. Teacher mentor name

Teach engineering/ and Education technology.
News are Cree city and commission

Teach engineering youth
Reflections daily
Career mentor

-lesson plan:

-Nano technology and water

What is nanotechnology,

How small are objects in nano technology,

Where does our water come from ,

How can nanotechnology make water safe to drink.

Activity 1,2,3 extension activity.

, -nano technology and mining , what is nanotechnology , what are the dangers of mining, how is nanotechnology being used to make water safe , activity,2,3 ..

-nanotechnology and energy, where does our energy come from, non renewable and renewable energy source , how can nanotechnology help to build better solar panels , activities,1,2,3:..

.nanometre..

- the are used nano technology science very small , objects , , , ..

..

..discy, ..

- apparatus , investigation, write an investigation Questions, write a hypothesis for your investigation, procedure for the investigation ..make sure that your hypotheses give a clear idea of steps you need ,

- connect your equipment so that you have build circuit shown diagram, beginning by including as completed the circuit observe brightness of the light bulb, now, observe the brightness of the light bulb with this shorter length,, torch , wire pencil lead, wire,, now decrease the length pencil lead that has been included in your circuit once , observe the brightness of the light bulb with this shorter length of pencil lead , record your observations,

-analyse your data. Assume the brightness current and resistance do you notice from observations,

-Write a conclusion.

Write a clear conclusion to your investigation..

Activity:

Describe the mining danger , ,

-activity : in group of 5 ,6 learner design and draw a poster showing how nanotechnology is being used to build gas sensors for mines,

- make your poster as clear and colourful as , .

- you teacher will assess your using criteria.
- poster is colour and creative , 2 marks, poster shows original idea 2 marks, poster is clearly presented , 2 marks, information on poster is informative. 2 marks, group work learner were included 2 marks ,total 10 marks.

2. how to build yourself a bright technical future.

- considering a technical career,..
- let's get down to work ,
- how do I pay for ..

Technical and artisanal not so low skilled job fact skilled,
Revolution age material age skill..

Myth and facts about technical careers .

Myth choosing a technical course will lead a low paying job , career regards status compare, gate stuck on your career , technical career are not for women , is dirt work, there is not room for creativity in technical career

Fact : a well qualified technicians or artisan is high demand and will earn good salary , need RSA job technical low, women do just as these career, workplace need clean

, Engineering challenge are practical problem and many need creation ntar where qualifirv,,

.are you fascinated by how something, piece make it up together, do you prefer to make things instead of reading aboutg ides , do you enjoy solving puzzles and problem, does working in team make happy , would you like to run your business ones day a career as artisan or technician ,,
mechanic technique , electrical, civil engineering technologist

, Let see what you are good at , it can difficult to decide what your are good at what career you want doing is to use a theory designed, six broad type, realistic, investigative, artistic , social, enterprise, conversation, occupation personel,

-Are you realistic, are you practical, CA you fix electrical things, do like explore machine, with score

-are you investigative , are inquisitive , can you things abstractly, do you like to explore ides,, analytical solve math problem use computer with score,

- are you artistic are you creative , sketch draw or paint all , solve problem in original way, intuitive , use intuition. read stories, play and poetry, imagine,, are you social are you friend can you teach or train other, do like to use social or interpersonal, are you enterprises, are you self confidence, star project , do you like to make that affect,

- so what now , how do you get there ,

Registered Education institut NQF qualifications.

Career career Pathways , school need subject , with exactly the Engineering technology field , electrical, career pet for part..

- birthday planetarium, science activity, , erupting apples, planetarium show, science show, graphite circuit

Climbing wall package,
 Subject in the national curriculum statement grade ,10-13..
 Learning field ,elective subject, you need to have selected subject, subject refer to the ,
 -compulsory subject ,home language n,first language,pure math ,
 Human social studies ,physical computer, business comeerce
 managent ,service manufacture eny, design technology, electrical
 technology,eny graphics design,mecanic

Engineering it... discovery Computer , training , development and support services to existing or prospective , club house safe creative space to learner aged ,prepares learners for full participation in the 4IR and provide exposure to coding ,robotics ,sebt development, graphic design,3 d design ,2 D and 3 D modelling, animation,video production, basic computing , virtual art , year full time development program 180 unemployment youth aged training including cisco,it Ccma ,ccna security Linux,IoT ,C,C++ , python , essential skills and career readiness, instructor training centre essential ,ccna routing and switching ,ccna security ,ccna cybersecurity operation,to existing or prospective , custome accreditation custome 3, 4 day module ,word,excell,access,Nd power point ms office,speciistr training,it also digital literacy, skills, certiport examination ms office , specifical, delivery fundiy depending learner full standard ,..

University. Undergraduate, how do you conscientise students about 4 in their learning ,reality ,Google self driviy,
 - what about the research output research , ..where are you going create new facility .
 - complementary roles engineer, design inovate ..role in perspective,
 , Career psychological services focus counseling therapy psych
 education ,career resource ,CV job interview gradust,

to

purpose: 3 ,,phase synchronous machine an electromechanic energy

conversion device operate speed of rotating magnetic field , synchronous machine ,bases energy, synchronisation generator, , $NS = 120f/ p$, number of poles the machine ,

Work.principlr,

-key features, synchronous motor do not starting self , synchronous machine double excited machine because it requires two input supplies ones stator , synchronous machine,operate at constant speed, called , syncy generator can produce voltage magnitude ,machine lagging,leading unit, syncy motor voltage : equation of synchronous motor,

$V = E_n + I_s(R_a + jX_s)$., - v = voltage Police , E_n back end , I a armature current , R_a armature resit, resultant voltage diff between the voltage applied V , and back EMF, Internal angle, ER , and $\tan \phi = X'_s/R_a$.,back EMF generated , $E_n = k_a \alpha NS$..

$E_n = v$ normal excitation, logging power factor, input power : input power synchy motor is given $p_{in} = v \cdot I_a \cos \phi$,,, $p_{in} = \sqrt{3} \cdot V_L \cdot I \cos \phi$,where ϕ .mechanic power in motor , $P_m = E_b \cdot I_a \cos (\phi - \alpha)$,,, $P_m = P_{in} - I_s R_a$.. $P_{in} = \sqrt{3} \cdot V_L \cdot I \cdot L \cos \phi$..is load angle.gross torque,synchry,speed , stepper motor , $B = N_s N_r / N_{sx} N_r * 360$..step angle of rotation , m_s = number of stator , resolution of stepper motor , , loady regulation= change output,no load , output volt,, fault calcule breaker busbare , $I_B = I / X'_s = 1/x + 1/x$..

- Implementation and stability inspection, cycle of training ,step take long time

- psychomotor : and physical requirements of a job analysis survey rate the functionalite requirements of job rating class ,job analysis,process, resultat process , resultating primary resultat job session news , category data, work ,instruction , function,analyse ,PC to collect data and draw , construction job tools ,build task tools up data ,,

- function in the real world introduction student to function ,function machine, functionalite machine easy ngrap, machine input goes same thing happened rules ,input predict output determine the input, input , metaphor by setting large cardbox machine mystery rules ,teacher student can create rules teacher created spread sheet machine,,,,

-Synchronous system asynchronous effect .phase transition

Asynchron 3 space 90,120 , wave ,,

-understand the gradient function slope slip tangent point derivative ,vector function Probly calcul gradient loss function,,gradient scalar function ,have two function partial derivatives,

-Maintenance during operation abnormal yes, breakdown yes, yes scheduling, order , maintence, database yes,yes period, mid term maintenance scheduled, monthly equimt inspection ,.

Implementation leader Education problem counter mesirw , trainer, equipment specific,inspection educay yes,inspection trait yes,self , leader Education yes,

- factory dry battery process, phenomenon batteries failling , revolving table, description loss balance,

-implementation ,system analogy,I/O control investy application of embedded control controller to real time control algorithm input analogy output implo a closed loop ,how feedback use linearized ,non linear process and resultat in zero stedly ,
 generate pwm outputs to implent variable motor ,supply voltage,
 Implementation a tachometer operational using pic 32 timer ,develop the CP program code to Implementation a pi controller moving average digital filter , monitoring display, reading embedded mechatron ,basic circuit pin microship pic , microprocessor, hardware basy trainer board workstation ,PC running windows,MC1 Linus ,12 v motor switch ,5 v,4A DC power supply,software ,mplabx plib cross ,
 Project takeaway how read Nalog compare implent a pwu capture period measure , fundamental digital,open loop and closed ,process control ,
 - fundamental concept ,unit introduction process electromechanic I/O , automate process control engineering deal,automai process,open loop, DC motor speed counter record ,
 Transfer functy magnitude response,phase shift ..

-Synchronous , .time period phase move transition job work
 vibration robotics system
 Mass spring force oscillator ...
 Function , $m\ddot{x} + c\dot{x} + kx = f(t)$..non zero setui mass friction k is the spring constant,f(t), Fourie series periodic function, $f(t) = f_0 \cos(\omega t)$.
 - resonay, control nature frequency, control logic ,circuit ,
 - frequency constant , capacitance,static displaced,static voltat
 resonance ,piezoelectric voltage constant .

Synchronouse robot dynamic, kinematics and
 control ,nomenclature ,operator , kinematics, introduction position
 represent coordinator , cylindrical, coordination,linear velot,reprensation
 velocity Cartesian ,rotation mayris ,active ,passive rotation passive rotation,
 elementary rotation,representation Euler angles, unit , time derivatives of
 rotation ,generality coordination ,mat lab ,rigid body velocity and

acceleration, task space, co-ordinate corresponding effect, f
 - forward kinematics for planar robot, are and effector position, function
 rotation matrix c
 - % GETULANG XJZ from option matrix (c) extract x, y, z Euler angles from
 % rotation matrices, % author,
 - $xy = a \tan 2(c(2,3), c(3,3));$
 $Y = \text{atan2}(c(1,3), \sqrt{(1,1)^2 + (1,2)^2}, c(1,1))$
 $Ph = [x, y, z]$
 Lifting job ,,,

Synchronous.
 Law of conservation of energy, mechanical energy ($K_E + P_E$), conservation,
 energy.
 $K_{Ei} + P_{Ei} + W_{nc} + O_E = K_{Ef} + P_{Ef} + O_{ef}$
 Kinetic energy is key work conservation, P_E , done by conservation force energy
 are included, equation, problem, step 1. Determine the system, step potential
 energy conservation, $K_{Ei} + P_{Ei} = K_{Ef} + P_{Ef}$, step step energy various, object
 phenomenon, efficiency,
 $E_{eff} = \text{useful energy or work out} / \text{total energy input} \dots$
 - Total change in energy of system,
 $\Delta u = \Delta q(v_2 - v_1)$, $\Delta u = I \Delta t v$ ($I = \Delta a / \Delta t$)
 Total kinetic energy of system energy of system conservation, $u = \text{kinetic } t$,
 $\text{kinetic } t = i.v \Delta t$. conductor electric field gradient energy, collision charge total
 charge vibration of Tom heat energy conductor $P = E/t$..
 Energy ability work done = energy spent power what meant DP/St , $f = dp /$
 St , St / St (m.v), solve equation, $L \cdot di/St + RT = E^\circ \cos \omega t$.. $dE \cdot dt = 0$ demonstrate
 pendulum force $u = m \cdot gh$
 $dE/St > \text{forcing constant function} \dots$

- Eskom smart meter infrastructure upgrade programme relit supply empower them
 control consumer, meter consultation process meeting block tariff, meter
 renewable, customer interface prepay, remote information meter 5,,
 - advance measure approach method, complex energy systems monitoring
 and control kpi, based on integration of based of active power ..

Lesson teach note:
 What's is nanotechnology: is NM one billion the length of matter to our
 perspective, diameter average bacteria 2500nm long material 100nm nano
 material,,, nono scat material, involved the product manipulation nanoscale
 material products, nanoscience consists of nanotechnology and character,

- activity fields nanotechnology, @0 years research plan research ...
- the electronics industry, with is distinct need between electrical appliances and electronics electrical appliances and the flow of charged particles electronics in this metal conductor copper wire, found electrical cord home appliances non metallic conductor ketler, electron, non metallic conductor semiconductor found cellphone..

- nanoelectronics current and future applications.

- origins of nanoelectronics: ,100 atoms ,

- computer chips semiconductor industry:

CPU ,central processing units found computer, transistors embedded in silicon, calculation per second required keep, replaced out data technology tubes 1960 s , accordingly to Moore's law named after ,PC transistor ,45 NM ,process 47 million nanoscale transistor distributed across 26 mm ,components computer,,

Components found quick retrieval storage data volatile data absent and use carbon nanotubes , computer switch data retention,data recovery during power cuts,

- molecular electronics: decrease in size components molecular emerge task performance ,capacitors in electronics device ,capacitor store information, molecular been investigated act incredibly single electron .

- organic light emitting diodes OLEDs : television and computer monitor ,electronic device Thea days particularly handled device mp3 player ,light emitting ,OLED organic light. Emitting diode 100nm packed between conducting film called electron film voltage causes energy ,compare OLED ,screen film, product,

- touch screen : technology as found in many table ,palm computer ,smart phones and news laptop,works , digital signal to control device interface , layering of conductive film of indium tri oxide ITO , which conductor relay the ,x- y coordinate to processing components of the device ,smart ,ITO , technology.

1 nanowire can produced to high conductive transparent subnano wire network allow higher screen brightness ,with option of producing flexible screen ITO film,

- improvement batteries:

Development in battery,lithium batteries ,smart phone ..

- risk and safety issue: unique physicochemical properties of nanomaterial electronics industry , safety human,nano party,microscale,mass ratio risk assessment , hazardous nanotechnology,national occupational health ,incorporate.

- key issue to consider : renewable water energy have lagged ,, chip manufacture capabilities.

- future risk assessment:

The future nanotechnology in the electronics industry:

- conductor,:material that can transmit heat light ,electrical charge in case electrical conductor

electrical conductivity measure of electrical current move through material it

can see. As opposite of resistance,

- semiconductor : a material that can conduct electricity.under specific voltage current flowing through common material .
- led technologie: light emitting diode are semiconductor device emit light as current from anode to cathode .to cathode energy from of photon ,is release electron through the led device bprocess called electroluminescence,
- transistor , semiconductor terminal current flowi between b,
- capacitor ,an electronic components store electrical charge consiste two conductive plate separate ,
- electrodes , the anode is the electrode oxidation reaction takes place reduce,
- graphene. Two dimensional one atom carbon atom bonded hexagonal the crystalline alloyrip structure a pure element ,pencil lead ,carbon nanotubes,hollow cylinder consistent,nested comprised of carbon atoms ,spherical carbon fulleren composed entirely carbon atom in bKk shapp also called buckbakk and buckmnjsterful,they commonly consist 60 or 79 carbon ,physicJ property , of substance relating to both it's physical chemical.

-Metering screen ,ITC manufacture nanotechnology transmission component automate ,,
Synchronouse system , synchronous intelligence it ,

Teacher's/Mentor's name, signature and date:

SOCIAL SCIENCES PROJECTS

NAME: _____tshingombe _____tshitadi

PROVISIONAL PROJECT TOPIC:

PROVISIONAL EXPO CATEGORY:

Delete all guidelines under the following headings once you have completed your Research Plan

Introduction

?

Problem Statement: What problem(s)/issue will you be addressing/exploring? Write the research question(s) or problem statement.

Research question(s): Question).

Aim: What is the aim/objective of this research project?

Hypothesis:

Variables:

Method

Procedure:

tables, graphs?

Ethics

Safety

If you do not have any potential safety issues, leave section blank.

Time Frames

References

Teacher's/Mentor's comments and suggestions:

<tshingombefiston@gmail.com> Aug 28, 2023, 8:09 PM (6 days ago)

to
Support

Project social..

1.

2. Social investigation : science natural

Support social creation and recreation orientation curriculum Assessment police social enterprise entrepreneurs sector products resource energie electrical commissioner ,training support system curriculum , synchronouse system social machinery social safety government system in the time framework regulatory curriculum sector education grade and level in the job system , development sub sectorial system system social worker synchronouse

Social worker public work system basic advanced must synchronouse with social system , labour worker OSHA safety society synchronouse with Commission electrical engineering worker data,

3.

3.1Teacher mentor :social education

Social education labour and land reform system , organisation entrepreneurs and humain resource system education system asynchronous,system class society ,grade society science mass media society work classes.

- families class work project, organisation non governmental social education entrepreneurs workers sub sector self employed self business was illegal or fraudulent system in normale system entreprise government system asynchron, need to educate social media by training for to synchronouse,

-3.2

lesson system social media support rural to teach and non gov,

-file worker, size years, skill development,size ,class skill ,model frequency ,means , value compared ,size social skill or semie skill grade , qualifications employment years , normal ,criteria choice guidelines normal, ,,report learner ,report job normal work labour synchronouse , report job pay hr give normal conditions , . Calcul system find balance merge social .good job

- 1..mathematic investigation ,

Framework regulation circulum policy for mathematics resolve ,

problem for science discovery system

Equation computing system equation, algebraic logic , analyse system mathematics find problem or concept ,proof existence natural system undercover real problem in natural

System exper or artificial intelligence or language reason calcul,

Synchronouse system to find more equation algebraic ,complex numbers master system deviations system ,equation find mathematics number master skill knowledge,proof existence of system function or gradient function ,function was real on distribution and transmission power ,was real system that was equation remarks for master number , mensuration system equation and compare slop of number deviation ,angle period time volatility time loss time break ,that was equation , trigonometry and geometric pattern number , statistics and probability to find on projectson number real and case reason for linear systems..

1.2Teacher mentoring:

Teacher education,system mathematics education subject lesson circulum, apply skill compilation language logic intelligence or robot system capacity of synchronouse system, mastering skill number use instrumental take measurements rule and measure instrument for understanding

Lesson plan orthopedafic projection planing , synchronouse ,system scale analyse geomatic geodesis ,vector equation quadratic linear synchronouse mensuration equation ,

Activities ,system resolve plan diagram current sinusoidal wave form angular

system projection orthopedics activities, design form , computer language wave,

1. science natural chemistry physics:

...

- project

Investigation: natural science: earth moon sun planets system quantum years
lightning years days start day end of day system ergonomic design

Natural teach discovery

science engineering

Investigation , physical and chemical,

Engineering , computer information technology, mathematics mental calculation

agronomical grade class agreement , grade geotechnical grade class years
geography engineering, mining investigation grade class matter

Investigation, science class matter elevation matter atomic cycle , Watters cycle ,
recyclage matter , investigation find matter chemical composition matter , solid , GAZ
liquid state , molecular ion electronics development skill materials , charge discharge
movement find current electrical mining agreement , degradation material and
graduation material system , synchronouse material system Earth system cycle life
skills , , ,

Chemical. Size system difficulties to synchronouse for reason challenging life and
disorder order natural system undercover real problem, industriel

-Physical state matter Liquide to GAZ, GAZ solide , solide to GAZ process

Synchronouse phase transition matter,

Electricity man's mechanic,

- electrostatic ,electrocinetic, electrodynamic, electromagnetic,
static,dynamic ,cinematic ,

Electrostatic investigation phase system matter transformation ,force electrostatic
transition electrodynamic phase to electrodynamic current to resistance resistance
to field magnetic,,force mass phase ,generation phased to transform phased ,
system skill , transmission , distribution system synchronouse real time ion
material speed celerity transmission ,km/s

- teaching education ,science natural investigation , psychosocial psycho science
development system natural task system computing file system Education
technology system science didactic system framework regulator,

Teaching phase transition phase synchronouse system development , chemical
sciences ,,material phase material transformation plastic ,elastic deformation
material ,, computer system matterial decomposition chemical atomic spray eating
phase GAZ generation force cycle synchronouse system generation to system
transmission and distribution Metering, ,atomic spray heater product coil
consumption phase cycle generation system going ,to transmission ionique chemical
computer system grade support to grade transformation synchro reactance system ,
electrostatic electrodynamic magnetic synchronouse to wave to distribution
system ,,, resistance way system for material recyclage, phase material strengths,,

Teacher's/Mentor's name, signature and date:

Social education, education environment ,geographic life cycle industrial
recycle synchronise system biogenes system hygiene system

project expo science

Support <support@exposcience.co.za>

Tue, Aug 29, 2023 at 8:59 AM

To: tshingombe fiston <tshingombefiston@gmail.com>

Good day

Did you participate with the same project at a regional expo?

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